ABSTRACT

Featured are methods for magnetic resonance imaging in which MR signals of selected tissues, fluid or body components in a target area are desired to be essentially eliminated, which method includes applying an initial RF inversion pulse to invert the magnetization of the selected tissues or to apply any other T1 preparation aimed at nulling one or more tissue species and successively applying one or more RF inversions pulses thereafter. More particularly, the successively applied RF inversion pulses are applied so as to essentially maintain the magnetization of the selected tissues at or about the zero-crossing point of the longitudinal magnetization. Such methods further include interleaving a plurality of excitation pulses for acquiring image data and the RF inversion pulses so that at least one of the plurality of excitation pulses follows in a time sequence the application of one of the applied RF inversion pulses such that the image data is acquired following an inversion pulse.